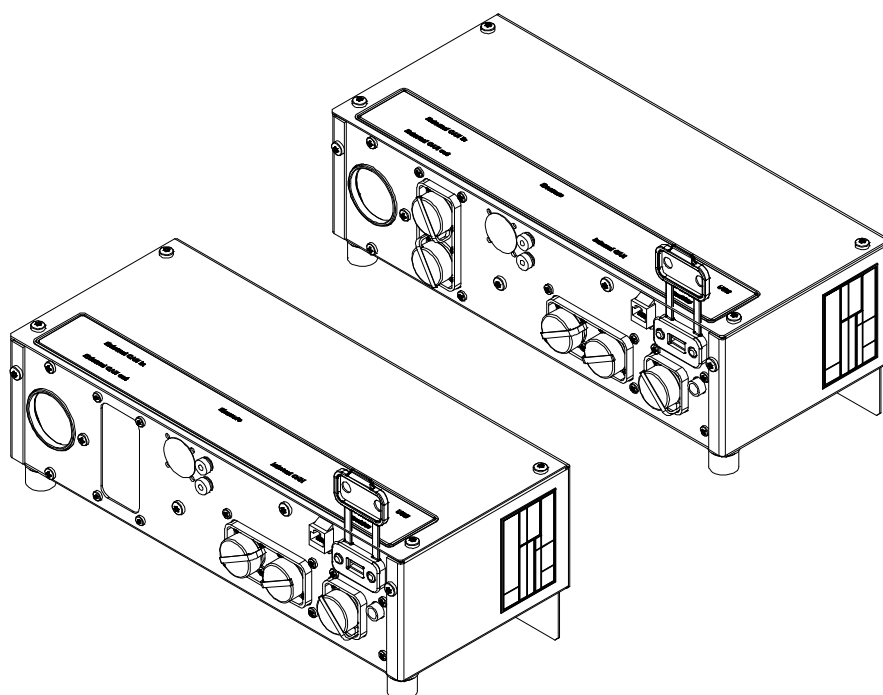


**Aristo**®

**W8<sub>2</sub>**



**Instruction manual**

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# 1 SAFETY

**NOTE!** *The unit is tested by ESAB in a general set-up. The responsibility for safety and function, of the specific set-up, lies with the integrator.*

Users of ESAB equipment have the ultimate responsibility for ensuring that anyone who works on or near the equipment observes all the relevant safety precautions. Safety precautions must meet the requirements that apply to this type of equipment. The following recommendations should be observed in addition to the standard regulations that apply to the workplace.

All work must be carried out by trained personnel well-acquainted with the operation of the equipment. Incorrect operation of the equipment may lead to hazardous situations which can result in injury to the operator and damage to the equipment.

1. Anyone who uses the equipment must be familiar with:
  - its operation
  - location of emergency stops
  - its function
  - relevant safety precautions
  - welding and cutting
2. The operator must ensure that:
  - no unauthorized person is stationed within the working area of the equipment when it is started up.
  - no-one is unprotected when the arc is struck
3. The workplace must:
  - be suitable for the purpose
  - be free from drafts
4. Personal safety equipment
  - Always wear recommended personal safety equipment, such as safety glasses, flame-proof clothing, safety gloves. **Note!** *Do not use safety gloves when replacing wire.*
  - Do not wear loose-fitting items, such as scarves, bracelets, rings, etc., which could become trapped or cause burns.
5. General precautions
  - Make sure the return cable is connected securely.
  - Work on high voltage equipment **may only be carried out by a qualified electrician.**
  - Appropriate fire extinguishing equipment must be clearly marked and close at hand.
  - Lubrication and maintenance must **not** be carried out on the equipment during operation.



## CAUTION!

*This product is solely intended for arc welding.*



## WARNING



**Arc welding and cutting can be injurious to yourself and others. Take precautions when welding and cutting. Ask for your employer's safety practices which should be based on manufacturers' hazard data.**

### **ELECTRIC SHOCK - Can kill**

- Install and earth the unit in accordance with applicable standards.
- Do not touch live electrical parts or electrodes with bare skin, wet gloves or wet clothing.
- Insulate yourself from earth and the workpiece.
- Ensure your working stance is safe.

### **FUMES AND GASES - Can be dangerous to health**

- Keep your head out of the fumes.
- Use ventilation, extraction at the arc, or both, to take fumes and gases away from your breathing zone and the general area.

### **ARC RAYS - Can injure eyes and burn skin.**

- Protect your eyes and body. Use the correct welding screen and filter lens and wear protective clothing.
- Protect bystanders with suitable screens or curtains.

### **FIRE HAZARD**

- Sparks (spatter) can cause fire. Make sure therefore that there are no inflammable materials nearby.

### **NOISE - Excessive noise can damage hearing**

- Protect your ears. Use earmuffs or other hearing protection.
- Warn bystanders of the risk.

### **MALFUNCTION - Call for expert assistance in the event of malfunction.**

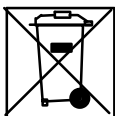
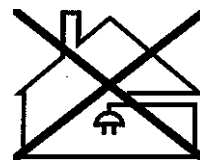
**Read and understand the instruction manual before installing or operating.**

**PROTECT YOURSELF AND OTHERS!**



## CAUTION!

*Class A equipment is not intended for use in residential locations where the electrical power is provided by the public low-voltage supply system. There may be potential difficulties in ensuring electromagnetic compatibility of class A equipment in those locations, due to conducted as well as radiated disturbances.*



### **Dispose of electronic equipment at the recycling facility!**

In observance of European Directive 2002/96/EC on Waste Electrical and Electronic Equipment and its implementation in accordance with national law, electrical and/or electronic equipment that has reached the end of its life must be disposed of at a recycling facility.

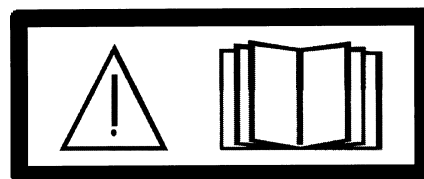
As the person responsible for the equipment, it is your responsibility to obtain information on approved collection stations.

For further information contact the nearest ESAB dealer.



## CAUTION!

*Read and understand the instruction manual before installing or operating.*



**ESAB can provide you with all necessary welding protection and accessories.**

## 2 INTRODUCTION

**W8<sub>2</sub>** is a control unit that adjusts the communication between welding equipment and automation equipment, such as robots. It receives control signals and settings via DeviceNet, Profibus or CANopen.

W8<sub>2</sub> is used together with ESAB's CANbus equipped power sources for welding automation. For power source and wire feed unit handling, see the relevant instruction manual.

### 2.1 Equipment

W8<sub>2</sub> DeviceNet, W8<sub>2</sub> Profibus and W8<sub>2</sub> CANopen are supplied with a USB memory, the software WeldPoint and an instruction manual.

W8<sub>2</sub> Integrated is supplied with an instruction manual.

Measurement cable kit and connection cables for different power sources are available as accessories, see [page 15](#) and separate spare parts list.

Instruction manuals can be downloaded from [www.esab.com](http://www.esab.com).

## 3 TECHNICAL DATA

<b>W8<sub>2</sub></b>	
<b>Supply voltage (to feed unit through W8<sub>2</sub>)</b>	42 V 50-60 Hz
<b>Supply voltage (from robot)</b>	24 V DC
<b>Supply voltage (from power source)</b>	12 V DC
<b>Weight</b>	4 kg
<b>Dimensions (l x w x h)</b>	366 x 101 x 159 mm
<b>Enclosure class</b>	IP 23

#### Enclosure class

The **IP** code indicates the enclosure class, i. e. the degree of protection against penetration by solid objects or water. Equipment marked **IP23** is designed for indoor and outdoor use.

## 4 INSTALLATION

*The installation must be executed by a professional.*

See the service manual for W8<sub>2</sub>.

### 4.1 Mains supply

#### **Note!**

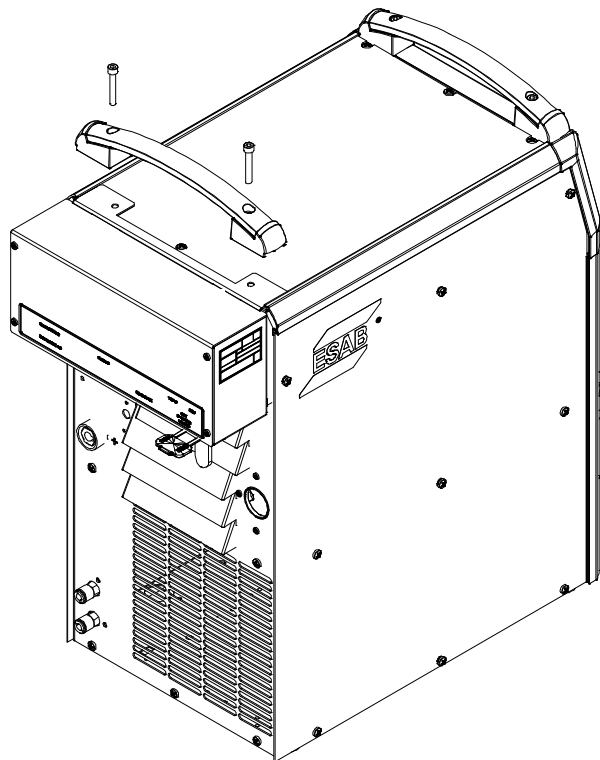
##### **Mains supply requirements**

High power equipment may, due to the primary current drawn from the mains supply, influence the power quality of the grid. Therefore connection restrictions or requirements regarding the maximum permissible mains impedance or the required minimum supply capacity at the interface point to the public grid may apply for some types of equipment (see technical data). In this case it is the responsibility of the installer or user of the equipment to ensure, by consultation with the distribution network operator if necessary, that the equipment may be connected.

### 4.2 Assembly instruction

#### **Connection to ESAB's Mig 5000i power source**

- Remove the welding power source's rear handle by removing the screws.
- Place the control box onto the welding power source, see picture below.
- Screw the control box and the handle into place in the same screw holes.

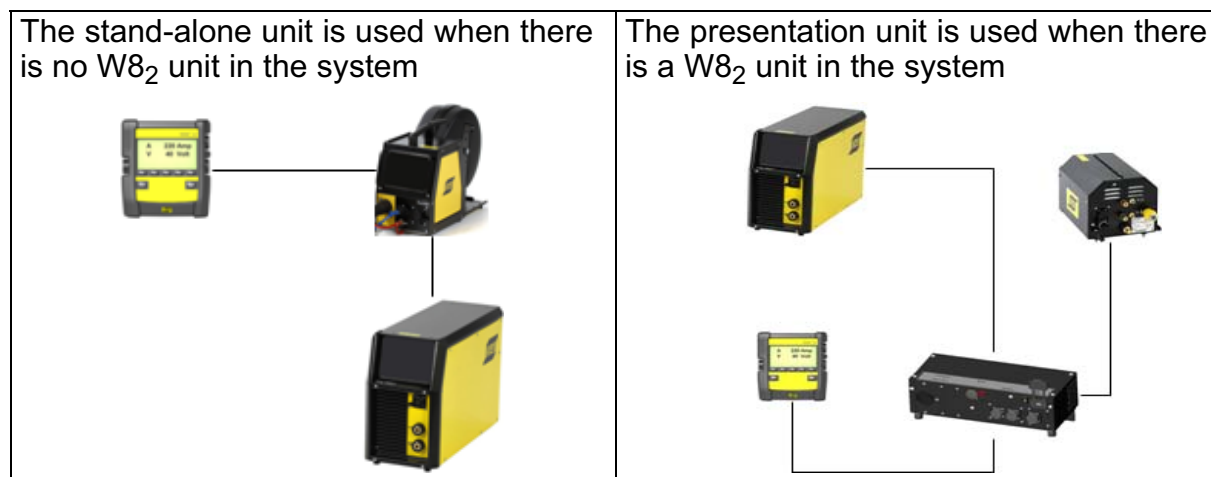


#### **Connection to ESAB's Mig 3001i, Mig 4001i and Mig 6502c power sources**

Connect the control box with a 2 m cable and place it on the floor or on a stand next to the power source.

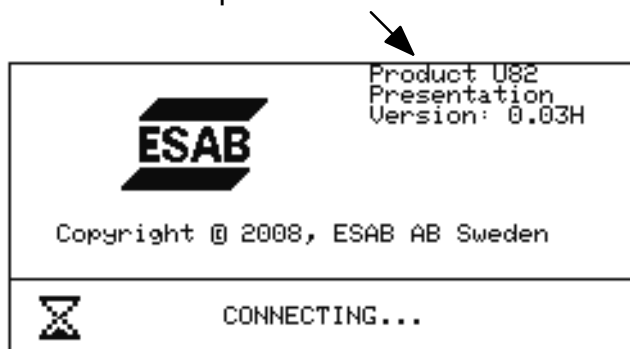
### 4.3 System description

It is possible to configure the U8<sub>2</sub> unit for stand-alone usage (stand-alone unit) or presentation usage (presentation unit). The presence of a W8<sub>2</sub> unit within the welding system determines which unit that is to be used.



It is necessary to convert the U8<sub>2</sub> stand-alone unit to a U8<sub>2</sub> presentation unit *before* it is used together with a W8<sub>2</sub> unit.

During unit start-up it is possible to see if the unit is a presentation unit or not.



### 4.4 How to set-up the U8<sub>2</sub> for use with W8<sub>2</sub>

**Note!** It is necessary to change the U8<sub>2</sub> stand-alone unit to a presentation unit *before* it is used together with a W8<sub>2</sub> unit.

#### 4.4.1 Save your stored data

1. Connect the U8<sub>2</sub> stand-alone unit to a power source or a wire feed unit.
2. Turn on the power source's main switch.
3. Export weld data sets from the U8<sub>2</sub> memory to a USB memory (see chapter Export/Import in the U8<sub>2</sub> instruction manual).
4. Turn off the power source's main switch.
5. Remove the USB memory.

#### 4.4.2 Convert the U8<sub>2</sub> stand alone unit to a presentation unit

1. Connect the enclosed USB memory to a PC. Make sure that the computer is set to show file extensions.
2. Rename the file's below (located in the enclosed USB memory)

From	To
update.txt_	update.txt
reset.txt_	reset.txt

3. Open the cover on the left-hand end of the control panel.
4. Insert the enclosed USB-memory into the USB connector.
5. Close the cover.
6. Turn on the power source's main switch.

One “beep” indicates that convert process is started It is finished when two “beeps” are heard.

7. Turn off the power source's main switch.
8. Open the cover and remove the enclosed USB memory.
9. Close the cover.

The unit is now ready to be used together with a W8<sub>2</sub> unit!



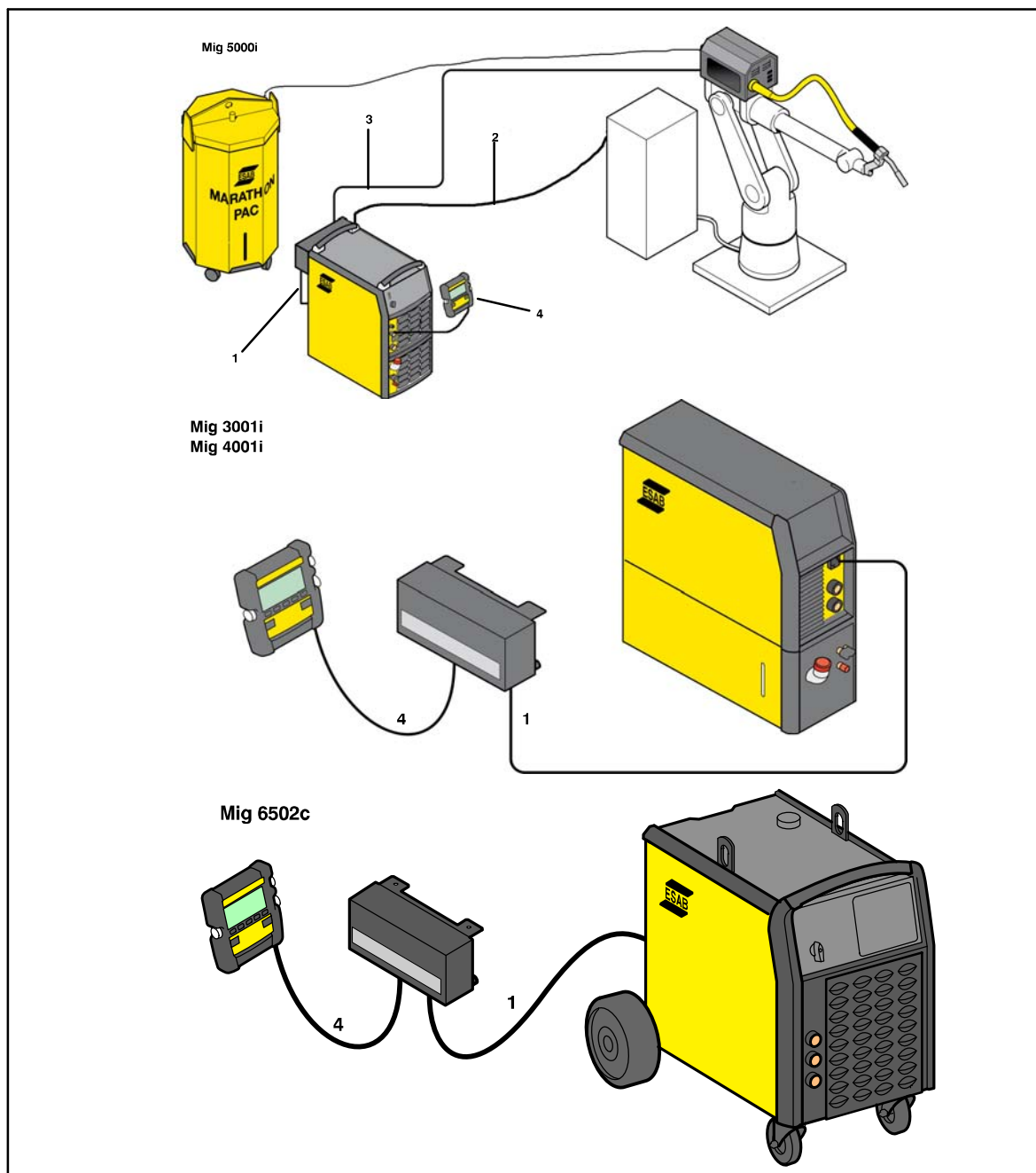
#### 4.5 System diagrams

Schematic diagrams showing the connection between different units follow.

- 1 Connection between welding power source and W8<sub>2</sub> - “CAN to power source“
- 2 Connection between W8<sub>2</sub> and robot control cabinet - “Fieldbus”
- 3 Connection between welding power source and wire feed unit - “Internal CAN”
- 4 Connection between welding power source and control panel - “Internal CAN”

**Note!** If the wire feed unit, RoboFeed, is not used, a separate arc voltage feedback is required to the measurement contact on the control unit.





## 5 OPERATION

*General safety regulations for the handling of the equipment can be found on page 3. Read through before you start using the equipment!*

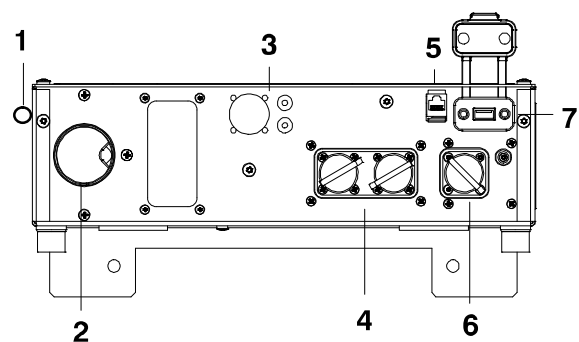
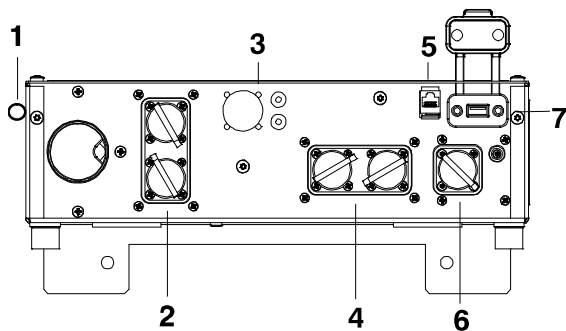
### 5.1 Connections and control devices

W8<sub>2</sub> Integrated

W8<sub>2</sub> DeviceNet

W8<sub>2</sub> Profibus

W8<sub>2</sub> CANopen



- 1** **Indicating lamp** *from serial number 944-xxx-xxxx*  
Orange indicating lamp - Overheating
- 2** **Fieldbus**  
Connection for communication with robot system
- 3** **Measure**  
Connection for measurement cable for arc voltage feedback and emergency stop signal, measurement kit
- 4** **Internal CAN**  
Connections for communication with ESAB wire feed unit and control panel
- 5** **LAN**  
Connection to network, Ethernet
- 6** **CAN to welding power source**  
Connection for communication with welding power source
- 7** **USB**  
USB memory connection

## 5.2 Overheating protection

The control unit has overheating protection that operates if the temperature becomes too high. When this occurs the welding current is interrupted and the orange lamp is on.

The overheating protection resets automatically when the temperature has fallen and the lamp goes out.

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## 6 MAINTENANCE

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*Regular maintenance is important for safe, reliable operation.*

*Only those persons who have appropriate electrical knowledge (authorized personnel) may remove the safety plates.*



### CAUTION!

*All guarantee undertakings from the supplier cease to apply if the customer himself attempts any work in the product during the guarantee period in order to rectify any faults.*

## 6.1 Inspection and cleaning

Regularly check that the control unit is in electrical contact with the power source and that the connections are fault-free and correctly connected.

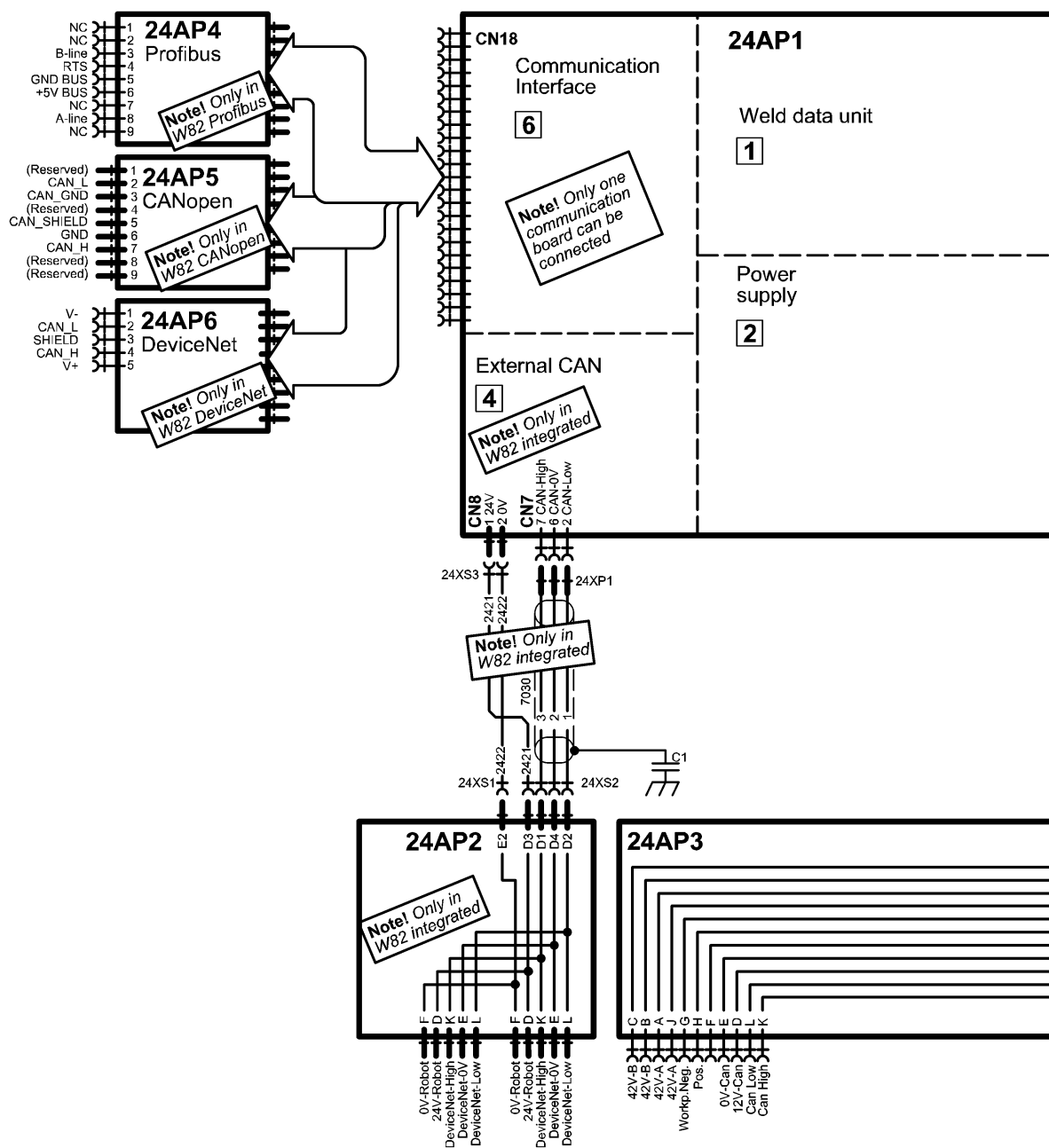
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## 7 ORDERING SPARE PARTS

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**W8<sub>2</sub> is designed and tested in accordance with the international and European standards 60974-1 and 60974-10. It is the obligation of the service unit which has carried out the service or repair work to make sure that the product still conforms to the said standard.**

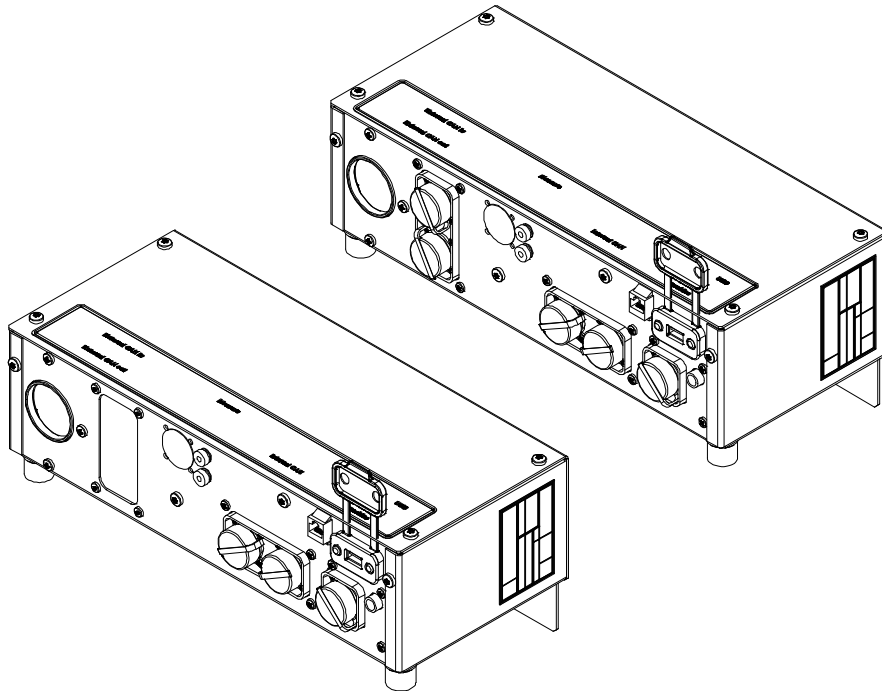
Spare parts may be ordered through your nearest ESAB dealer, see the last page of this publication.





**W8<sub>2</sub>**

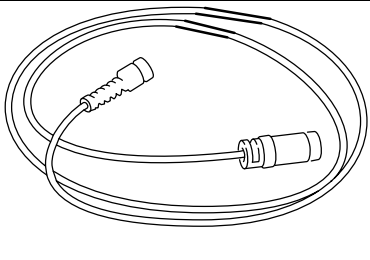

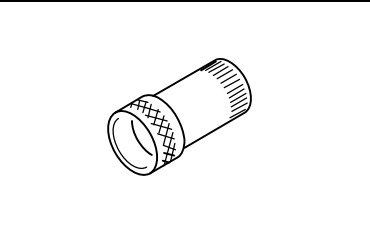
## Ordering number



Ordering no.	Denomination
0460 891 880	Control box Aristo™ W8 <sub>2</sub> , Integrated
0460 891 881	Control box Aristo™ W8 <sub>2</sub> , DeviceNet
0460 891 882	Control box Aristo™ W8 <sub>2</sub> , Profibus
0460 891 883	Control box Aristo™ W8 <sub>2</sub> , CANopen
0459 839 038	Spare parts list W8 <sub>2</sub>
0740 800 203	Service manual W8 <sub>2</sub>

Manuals and spare parts list are to be downloaded from the website [www.esab.com](http://www.esab.com).

**Accessories**

	<p><b>Control cable (connectors included)</b></p> <p>0.45 m 12 poles ..... 0456 527 885</p> <p>2 m 10 poles - 12 poles ..... 0462 000 880</p> <p><b>Connection set CAN Robot for W8<sub>2</sub></b></p> <p><b>Integrated</b></p> <p>7.5 m ..... 0461 182 880</p>
	<p><b>USB Memory 2 Gb</b> . 0462 062 001</p>
	<p><b>Termination resistor</b> 0459 314 880</p>

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